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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/022,464	12/14/2001	Om P. Agrawal	M-9642 US	1715
32605	7590	05/04/2006	EXAMINER	
MACPHERSON KWOK CHEN & HEID LLP			TAN, VIBOL	
1762 TECHNOLOGY DRIVE, SUITE 226			ART UNIT	
SAN JOSE, CA 95110			PAPER NUMBER	
			2819	

DATE MAILED: 05/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/022,464	Applicant(s) AGRAWAL ET AL.	
	Examiner Vibol Tan	Art Unit 2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 14-24, 26 and 27 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-12, 14-24, 26 and 27 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 6, 7, 10-13, 15, 16 and 23-25 is/are rejected.
- 7) ☒ Claim(s) 3-5, 8-9 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-2, 6, 7, 10-13, 15, 16 and 23-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Lacey et al. (U.S. Pat. 6,864,710).

In claim 1, Lacey et al. teaches all claimed features in Figs. 1, 12 and 13, a programmable interconnect circuit, comprising: a plurality of input/output (I/O) cells (256a-256n) arranged into a plurality of N I/O blocks (108a-108n), wherein each I/O block includes at least two I/O cells (256a, 256b) and each I/O cell (256 in Fig. 13) includes a multiplexer (not labeled) and a register (260) associated with a pin (I/O PIN) of the programmable interconnect circuit; and a plurality of N routing structures (104, 106) corresponding to the plurality of N I/O blocks, each routing structure (104 or 106 in Fig. 12) configured to receive signals from the plurality of I/O cells (as seen in Fig. 12) and programmably route the signals to each I/O cell within the routing structure's I/O block (inherent).

In claim 2, Lacey et al. further teaches the programmable interconnect circuit of claim 1, wherein the register of each I/O cell within a I/O block comprises an input register (258) coupled to the I/O block's routing structure (104 or 106) and to the I/O cell's pin (I/O PIN) and

further comprises an output register (260) coupled to the I/O block's routing structure and to the I/O cell's pin.

In claims 6 and 7, Lacey et al. further teaches the programmable interconnect circuit of claim 1, wherein the routing structures (104, 106) are configured to programmably route signals according to configuration data stored in a non-volatile memory (130a-b ROM; col. 5, line 16); wherein the non-volatile memory is in-system programmable (located inside).

3. Claims 3-5, 8 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. Claims 10-12, 14-24, 26 and 27 appear to comprise allowable subject matter(s) of the multiplexers sharing a common set of control signal paths coupled to their select terminals but having different sets of data signal paths coupled to their input terminals.

Response to Arguments

5. Applicant's arguments filed 02/28/2006 have been fully considered but they are not persuasive because the applied reference of Lacey et al. '710 anticipates all claimed recitations of claims 1-2, 6, 7, 10-13, 15, 16 and 23-25, as discussed in above detailed action. The applicants argued that they have provided a particularly advantageous architecture for applications such as bus-switching, for example, page 5, line 15 through page 6, line 8, a plurality of I/O circuits are arranged into I/O blocks. However, the Examiner respectfully would like to stress that claim must be interpreted in light of the specification without reading limitations into the claim.

6. The rejection(s) of claims 1-2, 6, 7, 10-13, 15, 16 and 23-25 is maintained.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vibol Tan whose telephone number is (571) 272-1811. The examiner can normally be reached on Monday-Friday (7:00 AM-4:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rexford Barnie can be reached on (571) 272-7492. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



VIBOL TAN
PRIMARY EXAMINER